

# HAMATEURCHATTER

One of the World's Oldest Continuously Active Radio Amateur Clubs - since 1917

Volume 11 No. 3 - Mar., 2003

## club officers

**President** (262) 965-3860  
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**Vice Pres.** (414) 357-6522  
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Tom Schulte AB9EK

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## From The President's Desk

### Spring Has Sprung!

That giant "Boing" you heard the other day was Nature's way of letting you know that Spring Has Sprung! This is a special time of the year for Amateur Radio as it is the harbinger of the Antenna Season... going up - going down - going back up.... and so on.

It is the time to experiment with multiwire macrame - fine tuned to provide maximum signal and least noise, while taking up minimum space and remaining decoratively invisible to your neighbors. Antennae are the most direct hands' on appliance (are they an appliance?) that we as amateurs can effect. We can experiment with them, we can get really scientific and make and record measurements. We can model them in various computer programs or simply on paper with a calculator and some men-

Patrick Moretti - W9UQ

tal gymnastics. The point is that we can play and see results! Go out there and try it - when was the last time you were able to make something and see the results of your efforts so quickly?

Antennae are the fastest way to upgrade your shack - also the cheapest way. Consider that if you purchased a 500 Watt amplifier for about \$1000 and hooked it up as part of your station feeding a dipole... you could get the same ERP (actually a better ERP) from a three element beam! Not only would the gain in signal strength at the far end be about the same, but you would also benefit from the approximate 7db of gain in the receive direction saving you the cost of a pre-amplifier... Antennas are fun!

Now that I have drawn you into the challenging experimental world of antennas... keep safety in mind.

Continued on pg 2

## Milwaukee Area Nets

DAY	TIME	MHz	ACTIVITY
Daily	6-8:00 AM	14.290	Wisconsin/Florida (SSB)
Daily	6:30 PM	3.645	WI Slow Speed CW Traffic
			After Breakfast Club (SSB)
Mon.	8:00 PM	3.994	Tech Net
Mon.	8:00 PM	146.865-	ARES Net (Walworth and ARRL news)
Mon.	8:00 PM	146.445	Emergency Net
Mon.	8:00 PM	146.865-	ARES Net (Walworth)
Mon.	8:45 PM	146.670-	ARRL voice news (ARES)
Mon.	9:00 PM	146.670-	ARES Net (Milwaukee-Waukesha)
Mon.	9:00 PM	50.160	6 Mtr. General Net
Tue.	9:00 AM	50.160	6 Mtr. 2nd Shifter's Net
Tue.	8:00 PM	144.250	Badger Contesters (SSB)
Tue.	8:00 PM	7.035	A.F.A.R. (CW)

DAY	TIME	MHzACTIVITY
Wed.	8:00 PM	28.365/10 Internat. (Milwaukee Ch.) (SSB)
Wed.	8:00 PM	145.130ARRL voice news
Wed.	8:00 PM	147.270+Weather & Swap net.
Wed.	9:00 PM	145.130AMSAT net
Thu.	9:00 PM	50.1606 Mtr. General Interest Net
Thu.	9:00 PM	146.910-Computer Net
<b>Fri.</b>	<b>8:30 PM</b>	<b>28.490MRAC W9RH 10 meter Net (SSB)</b>
<b>Fri.</b>	<b>9:00 PM</b>	<b>145.390-W9RH 2 mtr. FM Net after 10mtr.</b>
Sat	9:00 PM	146.910-Saturday Night Fun Net
Sun.	8:30 AM	3.985QCWA (Chptr 55) (SSB)
Sun.	10:00 AM	443.800+FM-38 link to 146.88 Baraboo SWAP Net
Sun.	8:00 PM	28.365/10 International (Milwaukee Ch.) (SSB)
Sun.	8:00 PM	146.910-Information Net
Sun.	9:00 PM	146.910-Swap NetMon-Fri

2 meter frequencies are offset by 600KHz

70 centimeter frequencies are offset by 5MHz

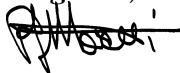
SSB frequencies below 20 meters are LSB and for 20 mtrs and above are USB



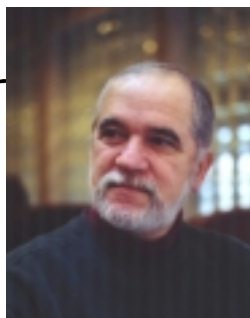
Some folks like to shoot arrows into the air - with a fishing line or other string type attached - with the goal of providing a means of getting the antenna wire hooked high in a tree top. A commendable goal but there are safer and more practical ways of achieving the same end... use a fishing pole with reel and a medium lead weight on the end of strong fishing line... it will fly into the trees and provide for that elevated platform we all seek. You can also use a sling-shot with the same fishing reel arrangement. There are commercial models, but you can also make one. Consider safety when launch your projectile - neighbor window, other hams in the area, cars or other vehicles. Once the line is up and you are pulling up that mettalic conduc-

tor... it is too late to remember to check for electrical safety! You should have doen that in your planning stage earlier in the game... don't set-up your antenna in a position where it or it's support might come into contact with a power line. It will kill you or someone else... but it will kill! Please be careful so that you can be around to enjoy the beauty that will soon surround us! What was it they used to say? " We want to talk to you - not about you!"

Regards,



Patrick  
W9UQ



Our President,  
Patrick Moretti - W9UQ

## MRAC VECA ExamSchedule

- 9 AM (AES Superfest )  
Saturday, April 26, 2003  
9:30 AM - AES
- Saturday, May 31, 2003  
9:30 AM - AES
- Saturday, July 26, 2003  
9:30 AM - AES

AES is Amateur Electronics Supply and is located at 5700 W. Good Hope Rd. in Milwaukee, WI.



Our repeater is a quiet one because YOU keep it that way.

USE Our Repeater 145.390 MHz - (127.3 Hz PL)!

## Recent VE Exams

MRAC VEC held VE testing on Feb 22, 2003 at AES. There were 9 examinees, and 8 were successful in either qualifying for their first license or in upgrading. Those VEs who helped out at the session included the following:

Tom Czaja KG9EE  
Bob Hensiak AB9EZ  
Bob Immekus W9CYI  
Kate Kedney KA9MWT  
John Kraak KF9XL  
Patrick Moretti W9UQ  
Sherm Swanson KB9Q  
Mark Tellier AB9CD

There is no exam session scheduled by MRAC in March. Our next session will be on Sat Apr 5, 2003 at AES. This session is held in conjunction with the AES Superfest.

73, John KF9XL



MRAC VEC

## HamateurChatter

HamateurChatter is the newsletter of MRAC (Milwaukee Radio Amateurs' Club) which is a not for profit organization for the advancement of amateur radio and the maintenance of fraternalism and a high standard of conduct.

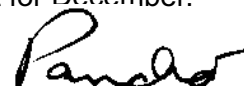
MRAC Membership dues are \$17.<sup>00</sup> per year and run on a calendar year starting with January 1.

Our Club/VEC Phone no. is  
**(262) 797-MRAC or in numbers  
(262) 797- 6 7 2 2.**

Correspondence may  
be addressed to:

**M. R. A. C.  
P.O. Box 070695  
Milwaukee, WI 53207-0695**

Our meetings are normally held at 7:00 PM. the last Thursday of the month except for December.





# Membership Meeting Feb. 27, 2003

Meeting called to order by Mark - AB9CD, club's vice president at 7:00pm. Introductions were made by all.

Tom - AB9EK, read the minutes from the January meeting. A motion was made and seconded to approve the minutes as read. Motion passed.

Les - AB9EY gave the treasurer's report for January 15<sup>th</sup> through February 15<sup>th</sup>. A motion was made and seconded to approve the treasurer's report as read. Motion passed.

Tom stated that the club is signed up for a table at super fest on April 4-5<sup>th</sup> at AES. One of the speakers at super fest will be from the cable company talking about interference to amateurs and amateurs interfering with the cable system. Plan on attending and have fun.

Tom - KG9EE and the VECs have put together a manual for the testing team. The manual contains guidelines for the VEC and the VE. The VE's will get to study the manual and possibly be tested on it. On February 22<sup>nd</sup> there were 9 candidates for testing and 8 passed.

Mark stated that there is free

computer repair service at the WCTC campus. See him for more details. Also a roster will be published sometime between April and June.

The Church has requested a donation of \$200 from us for the use of the hall. The money will be used for new sound equipment. In past years we have donated funds for various items. A motion was made by Mark and seconded by Pancho to give the Church a donation of \$200.00 for their purchase of new sound equipment. Discussion occurred. Motion passed.

Field Day is June 27-28<sup>th</sup> and will be held at Pioneer Village. This will also be the club's picnic. Jerry - WA9CGE is again the Field Day chairman. He is looking for volunteers to be station captains; duties would be to take care of the equipment and set up operating times for the different bands that each station will use. We will also need help with the food preparations. See Jerry if you can help.

D.J., - KC9AYO is doing code on the air on Mondays and Wednesdays at 6:30pm.


There is a bus trip to Dayton on May 17-18<sup>th</sup>. The MRC is sponsoring this and you do not have to be a member of the MRC to attend. The cost is \$70.50, which includes the bus to and from Milwaukee, a hotel room and tickets for both days at the fest. For more information contact KB9ZAG or KC9COY on the 91 repeater. This is first come first serve.

There will be a swap fest in Cedarburg on May 3<sup>rd</sup> and in Oak Creek, sponsored by the South Milwaukee Club, on July 12<sup>th</sup>. The South Milwaukee Club will have an auction on Wednesdays March 5<sup>th</sup> at 6:00pm in Oak Creek, the same place the swap fest is held.

George Pfister - W9IZQ, talked about how Tom Gettelman - W9IZO and he first became hams. This was a nice tribute to Tom who passed away last month.

A motion was made and seconded to adjourn the meeting at 7:43pm. Meeting adjourned and the program began. The program was the Circus Train presented by Phil, KC9CI. Thank you Phil for the presentation.

Respectfully submitted,

  
Tom Schulte, AB9EK  
Club Secretary

## Upcoming Programs

Upcoming programs will include a presentation by Patrick Moretti - W9UQ about the ARRL in March, a talk about weather by Skip Voros - WD9HAS in April and our Auction in May.

If any of you have a program which would be interesting to our members, please don't be shy about it. Let us know about it. Or if you know of an interesting program by anyone else for our meetings don't hesitate, let us know about these programs. We'll see what we can do to bring them to reality.

## Exam Requirements

When coming to take an exam, please **bring your present original license** (if you have one) **plus a copy** for our records. Also **bring any CSCE's** (along with a copy of each) which might pertain to the license upgrade for which you are striving. If you wish to apply for a grandfathered credit (for example, an old novice license credit for the EL-1 code exam) you must furnish written proof of this credit. Please bring along **2 forms of ID including one with your picture**. The fee for the exam remains at \$8. If you need to re-take an exam element at the same session, a separate \$8 fee is charged. Please bring a pen, pencils, and a simple, non-programable calculator.

Thank you.



John - KF9XL



# NOAA Weather Radio (NWR)?

In this issue of the Chatter we continue to explore NOAA Weather Radio (NWR) and why every household should own a weather alert radio. It should be considered as essential as a smoke alarm.

## What features should I look for in a NOAA Weather Radio?

There are several features to look for in a NOAA Weather Radio. The most desirable feature is an alarm tone. This allows you to have the radio turned on but quiet, listening for a special tone that is broadcast before watch and warning messages. During an emergency, National Weather Service forecasters will interrupt routine weather radio programming and send out a special tone that activates the NOAA Weather Radios in the listening area.

A new generation of NWR receiver allows you to pre-select the National Weather Service alerts you want to receive according to local geographic areas (counties or in some cases portions of counties). Look for NWR receivers with the SAME feature (Specific Area Message Encoding) which means the receiver is capable of turning itself on from a silent mode when the digital code is broadcast before the alarm tone is sounded for the geographic area you have pre-selected.

In addition, a good receiver should be able to operate on batteries during times when electrical services may be interrupted. Look for radios with an AC adapter and battery compartment. The radio should be tunable or switchable to all seven

NWR frequencies. Some older models receive only three frequencies, which will not work in all locations.

**My NOAA Weather Radio often turns on when the forecast office issues watches and warnings that don't impact me.**

**What can I do about that?**

With the addition of the Specific Area Message Encoding technology, life-saving messages broadcast on NWR can now be targeted to a more specific area, like a county or portion of a county, to bring more hazard-specific information to the listening audience. While older models of weather radio receivers will continue to work, to take full advantage of the specific area warning technologies, you will need to get a state-of-the-art receiver with digital SAME capabilities for receiving geographically specific warnings.

**I live in one county and work in another — will the SAME programmable NOAA Weather Radio receivers be able to alert me for more than one county?**

The capability to program the SAME-capable NOAA Weather Radio receivers for multiple counties is available on the new Radio Shack receiver and also on a commercial quality receiver sold by INH Technologies of Fort Worth, Texas. If this feature is important, be sure to check for its availability in whatever brand of SAME-capable receiver you look at.

*Brian K9LCO*

Next month more questions about NWR answered.



*Shack of F. J. Sturmberg KA9DFZ in Menomonee Falls, WI*



# Proposed Question Pool Syllabus

The Question Pool Committee of the National Conference of Volunteer Examiner Coordinators has released the following draft syllabus for the new Element 3 General class Question Pool.

This syllabus will be used when developing the new General class question pool that will become effective July 1, 2004.

This draft syllabus is available for download at <http://www.arrl.org/arrlvec/pools.html>. The public is invited to comment on this syllabus, as well as suggest questions for consideration in the next General Pool.

All responses must be received prior to July 15, 2003. Please direct your comments to:

- Scotty Neustadter, W4WW, Chair QPC email: W4WW@arrl.net
- Bart Jahnke, W9JJ, Member QPC email: vec@arrl.org
- Fred Maia, W5YL, Member QPC email: w5yi@w5yi.org
- John Johnston, W3BE, Member QPC email: johnston.john1@worldnet.att.net

For the QPC

Scotty Neustadter, W4WW, Chair QPC email: W4WW@arrl.net  
Question Pool Syllabus

## ELEMENT 3 GENERAL CLASS

as released by the Question Pool Committee of the National Conference of Volunteer Examiner Coordinators

**SUBELEMENT G1 — COMMISSION'S RULES** [6 Exam Questions — 6 Groups]

G1A General control operator frequency privileges

G1B Antenna structure limitations; good engineering and good amateur practice; beacon operation; restricted operation; retransmitting radio signals

G1C Transmitter power standards; certification of external RF-power-amplifiers; standards for certification of external RF-power amplifiers; HF data emission standards

G1D Examination element preparation; examination administration; temporary station identification

G1E Local control; repeater and harmful interference definitions; third party communications

G1F Certification of external RF-power-amplifiers; standards for certification of external RF-power amplifiers; HF data emission standards

**SUBELEMENT G2 — OPERATING PROCEDURES** [6 Exam Questions — 6 Groups]

G2A Phone operating procedures

G2B Operating courtesy

G2C Emergencies, including drills and emergency communications

G2D Amateur auxiliary to the FCC's Compliance and Information Bureau; antenna orientation to minimize interference; HF operations, including logging practices

G2E Third-party communications; ITU Regions; VOX operation

G2F CW operating procedures, including procedural signals, Q signals and common abbreviations; full break-in; RTTY operating procedures, including procedural signals and common abbreviations and operating procedures for other digital modes, such as HF packet, AMTOR, PacTOR, G-TOR, Clover and PSK31

**SUBELEMENT G3 — RADIO WAVE PROPAGATION** [3 Exam Questions — 3 Groups]

G3A Ionospheric disturbances; sunspots and solar radiation

G3B Maximum usable frequency; propagation "hops"

G3C Height of ionospheric regions; critical angle and fre-

quency; HF scatter

**SUBELEMENT G4 — AMATEUR RADIO PRACTICES** [5 Exam Questions — 5 Groups]

G4A Two-tone test; electronic TR switch; amplifier neutralization

G4B Test equipment: oscilloscope; signal tracer; antenna noise bridge; monitoring oscilloscope; field-strength meters

G4C Audio rectification in consumer electronics; RF ground

G4D Speech processors; PEP calculations; wire sizes and fuses

G4E Common connectors used in amateur stations: types; when to use; fastening methods; precautions when using; HF mobile radio installations; emergency power systems; generators; battery storage devices and charging sources including solar; wind generation

**SUBELEMENT G5 — ELECTRICAL PRINCIPLES** [2 Exam Questions — 2 Groups]

G5A Impedance, including matching; resistance, including ohm; reactance; inductance; capacitance; and metric divisions of these values

G5B Decibel; Ohm's Law; current and voltage dividers; electrical power calculations and series and parallel components; transformers (either voltage or impedance); sine wave root-mean-square (RMS) value

**SUBELEMENT G6 — CIRCUIT COMPONENTS** [1 exam question - 1 group]

G6A Resistors; capacitors; inductors; rectifiers and transistors; etc.

**SUBELEMENT G7 — PRACTICAL CIRCUITS** [1 exam question - 1 group]

G7A Power supplies and filters; single-sideband transmitters and receivers

**SUBELEMENT G8 — SIGNALS AND EMISSIONS** [2 Exam Questions — 2 Groups]

G8A Signal information; AM; FM; single and double sideband and carrier; bandwidth; modulation envelope; deviation; overmodulation

G8B Frequency mixing; multiplication; bandwidths; HF data communications

**SUBELEMENT G9 — ANTENNAS AND FEED-LINES** [4 Exam Questions — 4 Groups]

G9A Yagi antennas - physical dimensions; impedance matching; radiation patterns; directivity and major lobes

G9B Loop antennas - physical dimensions; impedance matching; radiation patterns; directivity and major lobes

G9C Random wire antennas - physical dimensions; impedance matching; radiation patterns; directivity and major lobes; feed point impedance of 1/2-wavelength dipole and 1/4-wavelength vertical antennas

G9D Popular antenna feed-lines - characteristic impedance and impedance matching; SWR calculations

**SUBELEMENT G0 — RF SAFETY** [5 Exam Questions — 5 Groups]

G0A RF Safety Principles

G0B RF Safety Rules and Guidelines

G0C Routine Station Evaluation and Measurements (FCC Part 97 refers to RF Radiation Evaluation)

G0D Practical RF-safety applications

G0E RF-safety solutions

Scotty Neustadter, W4WW



# On the Air Code Classes and Practice

Hello.

First, let me introduce myself, My name is D.J. Farrell and my call sign is KC9AYO. Since last December, I've been conducting CW classes on the 145.39 repeater every Monday and Wednesday night at 6:30pm. I've had a lot of fun doing it and, in addition to having made a lot of new friends, I've helped quite a few people learn the code and upgrade their licenses.

Basically, I've been structuring my classes towards absolute beginners; people who've never touched a Code Keyer before. The first half hour, I teach up to 6 characters, (including Prosigns and Punctuation) and make up some words to go along with the characters I've taught. From about 7:00 onward, I send out a QSO which follows the format of the standard Code Test; Call Signs, RST, QTH, Name, Rig, and Call signs again. I try and keep things fairly simple so as not to overwhelm people who are just learning

the code for the first time. I also try to structure things so that we build up towards an upcoming MRAC testing session. The Wednesday before a testing session, I hold a "cram" session where I go over everything I've been teaching for the preceding month.

Additionally, I encourage people to participate on a one to one basis. This keeps things lively and informative, and helps everyone who participates to learn the code and have fun doing it as well.

I encourage anyone who wants to learn CW, or any "OB" who wants to knock the rust off his keyer, to tune in the MRAC repeater every Monday and Wednesday at 6:30pm (local time). Comments and suggestions are always welcome.

73,

D.J.

KC9AYO

## MRAC - FIELD DAY 2003

"CQ - CQ - CQ Field Day" Yes, the A.R.R.L. Field Day exercise is coming - June 28th and 29, 2003. This year field day is late in June ( 4th FULL weekend).

M.R.A.C. has again obtained the use of the Cedarburg Train Station, on the grounds of Pioneer Village, from the Ozaukee County Historical Society. We have enjoyed the use of this facility for many years, and hopefully many more years to come. Pioneer Village is located in Hawthorne County Park, on County Trunk "I", north of Hawthorne Hills Golf Course, south of Fredonia, WI. I have again taken on the job of "Field Day Chairman" for this year's event.

Last year (2002) the club operated as a class "4A - COMMERCIAL" station. This means that we can (or will) operate only a maximum of four (4) stations (4A) at any given time, and that we will utilize 120 V.A.C. (line power) (COMMERCIAL) during the contest period, not having to maintain generators.

Our operation will commence on Saturday morning (about 8:00 A.M.) with the setup of antennas, operating positions, etc. The Historical Cedarburg Train Station will be the center of our operations.

It is anticipated our station will operate on all bands, 80 Meters thru 70 Centimeters, and many modes, including S.S.B., C.W., F.M., PSK31, etc.

As we operated in 2002 we will also try to again accomplish the receiving of the A.R.R.L. Field Day

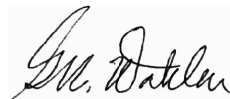
Message, a Satellite QSO, and operation of a battery powered and/or solar powered station.

As a sidelight to our operations in previous years, we did some unusual operations: used a telescope pointed at the sun and projected the sun's image of the ceiling of the station passenger platform to view sunspot activity during the day. Also, when bands quieted down somewhat in the evening, those of us not operating were able to view the movie "Frequency" projected on the wall of the railroad station.

This year we would like to have our members and operators volunteer to help control the number of stations on-the-air during the 24 hour period by being a "FIELD DAY COORDINATOR (E.D.C.)"; this would be for either a 2, 4, or 6 hour period. This E.D.C. would insure that we are in compliance with our 4 station on-the-air limit during the contest time.

Other things we need volunteers for are the setup and tear-down of antennas and equipment, for the preparation of food for the troops (we live on our stomachs), and we need OPERATORS - operators - OPERATORS.

If anyone has any questions or would like to talk to me I can be reached at: (414) 463-8667



Jerry - WA9CGE



# EVENTS

\* indicates VEC Testing

## VE Testing \*

MRAC General Meeting  
MARCH 27, 2003  
7:00 PM  
Redemption Lutheran Church

AES SuperFest 2003 \*  
FR.I&SAT. APR. 4 & 5, 2003  
AES  
Milwaukee, WI

Madison SwapSest \*  
SUN. - APRIL 13, 2003  
Mand Community Center  
Stoughton, WI  
T/I on 147.150 MHz

Lewis & Clark Radio Club  
HamFest\*  
SAT. - APR.26, 2003  
Lewis & Clark Community College  
Godfrey, IL  
145.23 rpt.

Cedarburg SwapFest \*  
SAT. - MAY 3, 2003  
Circle B Recreation Center  
Cedarburg, WI  
T/I on 146.97- (PL127.3 Hz)

Dayton Hamvention  
MAY16-18, 2003  
Dayton, OH

Chicago Amateur Radio Club  
HamFest  
SUN. - MAY 25, 2003  
DeVry University  
Chicago, IL

Princeton HamFest  
SUN. - JUN. 1, 2003  
Bureau Co. Fairgrounds  
Princeton, IL  
T/I on 146.955 MHz - (103.5 PL)

Six Meter Club of Chicago HamFest \*  
SUN. - JUNE 8, 2003  
DuPage Co Fairgrounds  
Wheaton, IL  
T/I on 146.37/97 (PL 107.2Hz)

ARRL Field Day  
SAT.&SUN.- JUN. 28&29, 2003  
Pioneer Village  
Cedarburg, WI



Use it or lose it -- our Repeater.

145.390 MHz - offset and PL of 127.3Hz

## Meeting Schedule

Our Meeting schedule for year  
2003 through June:

Thu. - Mar. 27, '03  
Thu. - Apr. 24, '03  
Thu. - May 29, '03  
Thu. - Jun. 26, '03

See you there!

*Pancho*  
Pancho - KA9OFA

## Credits

Our thanks to our news contributors  
this month:

KC9AYO	KA9DFZ	KC9BZU
AB9CD	AB9EK	KF9XL
WA9CGE	K9LCQ	KF9PU
W9UQ		

Thanks also to Rita Doneis, Armin Doneis, III, Mark Tellier, Brian White, and Tom Fuszard for their help in the proofreading dept. Our thanks goes to John Merkl and Jerry Wahlen for making sure that the 'Chatter' gets printed, stamped, and mailed.

Thanks also goes to Howard Parks who administers our website.

Thanks also to Alfred Huwald, Myron Hendrickson, and Ted Stiller



for obtaining and serving refreshments  
at our meetings.

Thanks also goes to Tom Sherlowsky and Jacquie Horwitz for taking care of the raffle at the meetings.

Thanks John Kraak and Tom Fuszard who are our VEC's

Thanks to Jerry Wahlen - WA9CGE for hosting our Friday night nets and chairing the Field Day committee.

Special thanks to all of our officers (past and present) who have tirelessly toiled for the good of the Club and Amateur Radio in general.

*Many Thanks!*



## MRAC

Meetings are normally held the last Thursday of each month except in December.

Our next meeting is;

Thursday - March 27, 2002.

at 7:00 PM at:

Redemption Lutheran Church

Fellowship Hall

4057 N. Mayfair Rd.

(Use the south entrance)

*HANDICAPPED ACCESSIBLE*

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**Please! Don't call the Church**

**Dues 'R Due,  
Let's dues it.**

Renewal form is in Nov. issue of  
'Chatter or available at meeting.

# Attention!!!

Program for the  
March 27 MRAC  
meeting will be a pre-  
sentation by Skip  
Voros - -WD9HAS  
about the weather and  
weather spotting, etc.

Visit our Website **<http://www.qsl.net/mrac/>**

Our Phone (262) 797-MRAC

**797 - 6 7 2 2**



Milwaukee Radio Amateurs' Club  
P.O. Box 070695  
Milwaukee, WI 53207-0695

**M.R.A.C.**